

JULY 2019 Update

Small Cells Forecast

Major changes to the forecast this quarter include:

1. The Small Cell market continues its growth with the Carrier Indoor segment (especially the DRS segment in China) leading the charge, followed by the Carrier Outdoor segment as operators continue their LTE network densification towards 5G. Despite the correction to decrease the Enterprise forecast, the overall Small Cell growth stands at 10% CAGR growth from 2018 to 2024 in both unit shipment and revenue forecast.
2. We have picked up some new information on residential femtocell shipment, resulting in more significant ramp down of WCDMA femtocells in 2018. Coinciding with this change, we have bumped up LTE femtocells in APAC. For the forecast period, we expect LTE femtocells to provide cost-effective coverage/capacity solutions for competitive LTE markets in APAC.
3. We discovered an error in our Enterprise small cell forecast, overcounting the enterprise ramp up from Private LTE and CBRS use cases. Correcting for the error, we see more reasonable ramp-up of Enterprise use cases for indoor small cells. The revised growth rate is 5% (as compared to the 17% CAGR previously indicated in our forecast).
4. The largest market for Enterprise small cells is N. America with diverse enterprise channels and use cases including small cells as a signal source and CBRS uptake for private LTE use cases ramping in 2020. Starting from a small base, Europe is expected to see the highest growth rate in low double digits with Private L/5G use cases for some major verticals, including smart manufacturing.
5. The Carrier Indoor segment continues to experience very robust growth, especially in China as the operators continue to densify and “digitize” indoor spaces with DRS deployments in preparation for 5G. We have revised upward the near-term forecast of DRS unit shipments based on new information that several OEM vendors won China Mobile phase 2 tender for indoor digitization projects in less urban areas. We expect these tier 2 vendors to take some shares which would have gone to Huawei and ZTE otherwise.
6. The Carrier Outdoor segment has not changed much. We expect operators to deploy both low-power RRH for network densification and high-power “mini macro” radios to extend coverage/capacity in suburban and rural areas. Small cell specialists like Parallel Wireless and Airspan have found success in these segments along with Tier 1 OEMs like Nokia. With key tier 1 operators devoting much of their CAPEX and mindshare on 5G macro-layer and 5G millimeter wave deployments in the early days of the 5G transition, the (sub-6 GHz) Carrier Outdoor deployment will remain primarily on LTE for the next several years.

7. In North America, we observed steady operator activities around small cell deployments – still requiring 1-2 year deployment cycle for site acquisition, power infrastructure planning, small cell deployment, etc. While the T-Mobile/Sprint merger “saga” continues to play out in the backgrounds, Sprint continues its steady small cell deployment based on the wireless relay and strand-mount deployments. Verizon continues its C-RAN focused network densification deployment, and AT&T is selectively deploying small cells for fixed wireless and mobility use cases.
8. In China, most of the small cell action evolves around DRS deployments. Major Chinese OEMs, including Huawei and ZTE, are reporting robust carrier deployment of LTE and 5G DRS units in major cities. Meanwhile, China Mobile phase 2 tender has brought some energy to tier 2 vendors, including Comba, Bravocom, Datang, and others. Moreover, there is great anticipation by tier 2 OEMs for O-RAN opportunities as operators seem open to “seed” the O-RAN market opportunity with deployment opportunities in non-major markets. Many of these tier 2 OEMs see the O-RAN opportunities as a means to penetrate in higher-margin Carrier Indoor and Carrier Outdoor small cell markets.
9. There is a risk that Huawei may experience supply constraint to meet the demand as outlined in our DRS shipment forecast. Huawei is the dominant supplier of DRS units in China and globally, so the current ban on semiconductor components from the USA and the ARM license ban may limit how much small cell units that the company can deliver. We are aware that Huawei had stockpiled certain semiconductor components prior to the ban, but it is not clear how much they have in inventory to meet the demand. This is a known risk factor in our current forecast.
10. In APAC where LTE network utilization continues to go up, operators are making selective LTE outdoor deployments in Japan, Korea, and southeast Asia. In India, we expect several leading operators to deploy Carrier Indoor and residential femtocell units as a cost-effective means to increase network capacity. Until 5G macro-layer deployment has stabilized, the LTE network densification will remain the main focus for the operators in small cells.
11. In Europe, while some leading operators are making 5G investments in select markets, the scale-out 5G investment is expected to take some time, especially in light of the current political environment in telecom with the possibility of banning Huawei in some 5G deployments. Meanwhile, the LTE small cell deployments continue in rural areas with high-power Carrier Outdoor units and select residential and enterprise indoor deployments.
12. While the residential segment has shown some lumpy slowdown in the first half of 2019, the Carrier Indoor deployment and Carrier Outdoor deployments in N. America and APAC continue to ramp up steadily.